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ABSTRACT

This study examined the relationship between preservice teachers' perceived efficacy and their beliefs about teaching and learning. Subjects were 382 preservice teachers enrolled in either an early childhood or elementary teacher preparation program. Statistical analysis of responses to a version of the Gibson and Dembo Teacher Efficacy Scale revealed significant interactions between the two teacher preparation programs, the point where preservice teachers were in their programs (beginning or ending), and their academic major. Several factors differed across programs, including teachers' sense of their ability to work with children from diverse backgrounds and to use behavior management and discipline conceptions, and beliefs regarding their contribution to children's outcomes. Qualitative analyses revealed differences in preservice teachers' beliefs about teaching and learning between different programs and majors. The study identified similar patterns of preservice teachers' sense of efficacy and beliefs across teacher education programs. Preservice teachers' perceived efficacy appears to be associated with some emerging beliefs such as the concept of strong teacher responsibility for children's learning, their perception of their role as teachers, and some teacher characteristics of being stable, productive, positive, and responsible. (The Teacher Attitude Scale used in the study is appended.) (Author/JPB)

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Early Childhood and Elementary Preservice Teachers' Beliefs

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Abstract

In this study we examined 382 preservice teachers' perceived efficacy, their beliefs regarding teaching and learning, and the relationship between their sense of efficacy and their beliefs about teaching and learning by analyzing quantitative and qualitative data using a modified version of the Gibson and Dembo Teacher Efficacy Scale and six open-ended questions. The participants were enrolled in either an early childhood or elementary teacher preparation program at either a midwestern or southeastern university. A MANOVA revealed statistically significant interactions between the two teacher preparation programs, the point where preservice teachers were in their programs (beginning or ending), and the major of the preservice teachers. Several factors, including a sense of their ability to work with children from diverse backgrounds and to use behavior management and discipline conceptions, and beliefs regarding their contribution to children outcomes differ across certain preparation programs. Qualitative analyses revealed variance in preservice teachers' beliefs about teaching and learning both between different teacher preparation programs and in the specific major they were studying. This study identified similar patterns of preservice teachers' sense of efficacy and beliefs across teacher education programs. Preservice teachers' perceived efficacy appears to be associated with some emerging beliefs such as the concept of strong teacher responsibility for children's learning, their perception of role as teachers, and some teacher characteristics of being stable, productive, positive, and responsible.

Early Childhood and Elementary Preservice Teachers' Beliefs

Teacher efficacy has been linked to different factors. These included: (a) teacher characteristics (e.g., willingness to try a variety of materials and approaches, willingness to work with difficult students, the desire to find better ways of teaching, and implementation of progressive and innovative methods) (Allinder, 1995); (b) preservice teachers' level of professional commitment (Coladarci, 1992; Evans & Tribble, 1986); (c) some students' external factors (e.g., students' family background, parent involvement) (Bandura, 1997; Hoover-Dempsey, Bassler, & Brissie, 1987); (d) students' involvement in academic activities (Guskey, 1987); (e) teachers' perceptions of children and control (Woolfolk & Hoy, 1990); (f) classroom management and discipline (Emmer & Hickman, 1991; Soodak & Podell, 1994); and (g) attitudes toward teaching (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

Ashton, Webb, and Doda (1982) categorized some teacher characteristics which differentiated high sense of efficacy from low sense of efficacy. For example, high efficacy teachers had positive expectations for student behavior and achievement; took personal responsibility for student learning; used strategies for achieving objectives; and had a sense of control with confidence in their ability to influence student learning. Gibson and Dembo (1984) also anticipated that high-efficacy teachers would be active and positive in their responses to students. They found that teachers with a high level of perceived efficacy had a better academic focus in the classroom and demonstrated different types of feedback than teachers who had a lower sense of efficacy.

Preservice teachers enter teacher preparation programs with well established beliefs about teaching and learning which may be subject to change (Clark, 1988; Clark & Peterson, 1986;

Florio-Ruane & Lensmire, 1990; Hollingsworth, 1989; Lortie, 1975; Nespor, 1987; Weinstein, 1989; Wilson, Konopak, & Readence, 1994) or may be difficult to change (Kagan, 1992; McLaughlin, 1991; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998; Weinstein, 1989, 1990). Several studies provide evidence to support the view that teacher education programs have little impact on teachers' beliefs (Finlayson & Cohen, 1967; Gibson, 1972; Lacey, 1977; Lortie, 1975; McDiarmid, 1990; Zeichner & Tabachnick, 1981). Zeichner & Tabachnich (1981) reported that the beliefs that preservice teachers bring with them tend to be maintained during the progress of teacher education programs in which student teachers learn the dominant curriculum and pedagogical methods from their cooperating teachers. Formal training in pedagogy at the university is seen as having little impact in comparison with the influence of pretraining experiences (Zeichner & Grant, 1981).

There is no conclusive evidence, however, concerning the degree to which teacher education programs have impact on preservice teachers. Evidence exists to support the idea that preservice teachers' conceptions may change during teacher preparation programs (Feiman-Nemser, McDiarmid, Melnick & Parker, 1989; Florio-Ruane & Lensmire, 1990; Gibson, 1972; Hollingsworth, 1988; Skipper & Quantz, 1987; Tamir, 1991). Feiman-Nemser et al. (1989) conducted an exploratory study of conceptual change with 91 preservice teachers in an introductory course. They found the entry preservice teachers perceived teaching simply as telling and the ending-level preservice teachers perceived teaching as being more complex. Hollingsworth (1989) stated that students enter teacher education programs with definite ideas about teaching and learning. She described how those beliefs and ideas may change as a result of the experiences provided in the preservice program. Tamir (1991) concluded that teacher

preparation and experiences of prospective teachers significantly affects their expressed views and beliefs about learning and teaching. Florio-Ruane and Lensmire, (1990) Hollingsworth, (1988, 1989) Skipper and Quantz, (1987) and Tamir (1991) indicated that teacher preparation programs seem to enhance the attitudes and beliefs of preservice teachers. By using interviews, observation and questionnaires, Tatto (1998) classified teacher training programs into several categories based on their theoretical views of learning to teach. Her examination of the views of student teachers at different points of their teacher education programs showed there were similarities and differences across programs with regard to beliefs about teaching diverse students, and about sources of school success and failure. She suggests that programs build a highly coherent curriculum because faculties who share common perspectives seem to influence graduates' views in the expected directions.

Gibson (1972) also conducted a study of student teacher perceptions concerning teacher-role expectations during a three-year period of anticipatory teacher preparation programs. He found that the early part of the teacher education program seemed to have significant effects in changing students' attitudes. Also college course work and student teaching experiences may have some influences on teachers' sense of efficacy (Ashton & Webb, 1986; Enochs, Scharmann, & Riggs, 1995; Watters & Ginns, 1995). The level of self-efficacy would affect preservice teachers' concept change during teacher education (Imants & Tellema, 1995).

Gibson and Dembo (1984) applied Bandura's social cognitive theory to construct a teacher efficacy scale (see appendix for sample items) which contains personal teaching efficacy and general teaching efficacy. Previous researchers have confirmed a two-factor solution (Allinder, 1995; Anderson, Greene, & Loewen, 1988; Coladarci, 1992, 1997; Kushner, 1993;

Saklofske, Michayluk, & Randhawa, 1988; Soodak & Podell, 1994). Recently studies using the Gibson and Dembo scale have showed inconsistencies when applied to divergent settings (Emmer & Hickman, 1991; Guskey & Passaro, 1994; Lin & Gorrell, 1998; Soodak & Podell, 1996).

In this study, we have drawn from Guskey's (1987) argument about teachers' perceived sense of efficacy in teaching and learning which was considered as teachers' perception of personal responsibility for student learning. We had chosen a combination of the Gibson and Dembo (1984) scale and open-ended questions to gain a better understanding of preservice teachers' sense of efficacy and beliefs. We analyzed preservice teachers' sense of efficacy and described and interpreted the perception patterns related to teaching and learning of early childhood and elementary preservice teachers at two universities. We also examined the connection between their educational beliefs and their sense of efficacy. We hypothesized that preservice teacher beliefs may be influenced by the structural context of their preparation, by the goals of their teacher education programs, and by their experiences in the program. We also hypothesized that there is a relationship between preservice teachers' sense of efficacy and their beliefs about teaching and learning both before and after completion of their teacher education program.

Method

Participants

The 382 participants in the study included 170 early childhood preservice teachers (44%) and 212 elementary preservice teachers (56%). Of the total subjects, 231 preservice teachers were from a southeastern university (60%) and 151 were from a midwestern university (40%) and 197 preservice teachers were at the beginning of their program (52%) while 185 were at the end of

their program (48%). Of the total sample, 91% were female and 92% were under the age of thirty. Of the 231 preservice teachers at the southeastern university 121 were starting the program while 110 were at the end of their program and 120 were enrolled in early childhood education and 111 in elementary education. Of the 151preservice teachers at the midwestern university 76 were starting the program while 75 were at the end of their program and 50 were enrolled in early childhood euucation and 101 in elementary education.

At the southeastern university, the early childhood and elementary preservice teachers are similar in that they are both required to take a combination of university core courses, college core courses, state course requirements, teaching field courses, and professional courses in programs that required 204 quarter hours to complete. Additionally they have to complete a quarter-long student teaching experience.

The early childhood and elementary programs at this university differ in significant ways. Early childhood majors complete a developmental six-course sequence (20 quarter hours) that increases their understanding of the nature of the learner, the nature of the content to be taught, the methods by which to teach the content, the professional ethics that govern their interactions with others, and the strategies by which to plan and implement classroom management. Two quarter-long practica are included in the six-quarter sequence. Additionally, early childhood majors are required take five courses in child development (19 quarter hours) that are not required of elementary majors. The early childhood program adheres to the guidelines for the preparation of early childhood professionals developed by the National Association for the Education of Young Children.

Elementary majors complete a 20-quarter-hour concentration in one selected content area,

such as life science, history and psychology. Elementary majors complete 4 professional courses organized around the content to be taught and the methods by which to teach the content (20 quarter hours). These methods courses are taken in two sequential curriculum blocks that are integrated with practical experiences in the schools. The elementary program uses and teaches the standards put forth by professional organizations of the many content areas, for example the National Council of Teachers of Mathematics and the International Reading Association.

At the midwestern university, both the elementary education and early childhood education programs are four years in length. Two years are spent in general or liberal education and two years are spent in teacher education. Each of teacher education programs have 23 courses which contain foci on foundations (historical, philosophical, sociological, psychological), methods (discipline specific and integrated) connected to field practice and student teaching. Each of the programs is oriented toward a social-constructivist perspective with emphases on diversity, collaboration, reflection, empowerment, and community. The liberal education program includes courses related to the natural and physical sciences, the social sciences, languages and symbolic thought, and the fine arts.

The early childhood education program, through its interdisciplinary curricula, prepares students to work in a variety of settings- -nursery schools, child care centers, Head Start programs, home-based programs, parent education and community education programs. Early childhood students complete common core courses in child development, parent-child relations, early childhood education, special education/early childhood education, community resources, and organizational management and supervision. The early childhood methods courses consist of classes in literacy and language, cognitive and social skills, and literature. In addition, students

take classes in early childhood art, music, movement, health and nutrition. Tied to all of the course work are observations and practice in a variety of early childhood settings.

The first block of classes in the elementary education program consists of theoretical courses addressing the philosophical and psychological models of education, learning environments, classroom management, and beginning literacy methods with observation and practice in various elementary schools. Block two courses concentrate on methods and pedagogy in mathematics and literacy, again with connections to practice. Block three continues with methods and pedagogy related to the natural and social sciences, again with connections to practice. Courses in special education and other diversity areas are integrated in all of the blocks.

Instrumentation

The Teacher Efficacy Scale. Gibson and Dembo (1984) developed the teacher efficacy scale for measuring the two dimensions of personal teaching efficacy (PE) and general teaching efficacy (TE). Sixteen out of the original thirty items had acceptable reliability coefficients based upon principal components factor analysis. In the present study, the instrument was a slightly revised form of Gibson and Dembo's (1984) Teacher Efficacy Scale and reflected an early childhood and elementary education emphasis. For example, references to earning grades were replaced with references to doing well in school. The revised instrument contained the original or revised 16 items plus two additional items that examined issues related to cultural differences (items # 9 & 13). Each item on the scale is rated on a 5-point Likert scale ranging from strongly agree (5) to strongly disagree (1) with a neither agree nor disagree as the mid-point (See Appendix for examples of the items). Higher total scores on this scale reflect higher levels of perceived efficacy. Based on responses of the present sample, the internal consistency estimate

(Cronbach's Alpha) for the total sample was .56.

Six open-ended questions. Six open-ended questions were used to inquire into the preservice teachers' beliefs about teaching and learning (Gorrell, Hazareesingh, Carlson, & Stenmalm-Sjoblom, 1995). These open-ended responses were used in this research to better understand preservice teachers' beliefs about teaching and learning. Participants were asked to describe(1) what their most important roles as teachers would be, (2) what would be going on in their first classroom, (3) what they thought were the best ways that children learn, (4) what they thought were the most important reasons for children to go to school, (5) what they thought their pupils would need from them, and (6) the relationships they expected to have with pupils' families.

Demographics. Demographic information related to preservice teachers' age, gender, major, minor or collateral field, and level of degree was gathered for data analysis.

Data Analysis

Teacher-efficacy Scale. General Linear Model procedures were used to determine if statistically significant differences existed between the two universities, between preservice teachers at the beginning of their program and those at the end of their program, and between majors. When group differences were identified, follow-up univariate analyses were conducted.

Six open-ended questions. Using a qualitative, inductive approach, responses from the six open-ended questions for each participant were broken down into thought units, coded according to key words and then organized into themes (Bogdan & Biklin, 1992; Hutchinson, 1990; Strauss & Corbin, 1990). The constellation of key words related to these themes was entered into the NUD* IST (Non-Numerical Unstructured Data Indexing, Search and Theory Building) software

program designed specifically for theory building (Miles & Huberman, 1994; Kelle, 1995). The percentages of responses for each theme were calculated. Also, in order to identify themes that differed by major, university setting, or point in program, the researchers examined emerging themes and the frequency ranking of responses for the six questions by each variable. During the process of data analysis, professors from both teacher education programs were asked to provide alternative perspectives that added to the credibility of the research (Lincoln & Guba, 1985; Patton, 1990).

Results and Discussion

The Teacher Efficacy Scale. Gibson and Dembo's (1984) two-factor solution procedure using principal axis factoring with both oblique and orthogonal rotations was replicated. The Bartlett's Test of Sphericity was significant in both sites' data, X^2 (153, N=230)= 557.815, $p < .0001$; X^2 (153, N=151)= 467.224, $p < .0001$, indicating that there were some statistically significant correlations within the correlation matrix. However, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .686 and .688, indicating only mediocre sampling adequacy. In addition, the correlation matrix revealed very few item correlations over .30.

We used the General Linear Model to test the significance of the eighteen-item difference between early childhood and elementary majors, between beginning and ending groups, and between universities based on participants' responses. Also we used Univariate analyses of variance for the sum of the 18 items to examine the differences among three dependent variables (university, group and major).

Overall preservice teachers at the ending of their program (M=66.09) have higher efficacy scores than preservice teachers at the beginning of their program (M=64.32), although univariate

analyses of variance for the sum of the 18 items revealed neither major (early childhood and elementary), nor university (the midwestern university, the southeastern university) main effects are significant. The group (beginning, ending group) main effect is significant, F (1, 373)=11.133, $p < .05$, $eta^2 = .029$. The interaction between university and major is significant, F (1, 373)=4.935, $p < .05$, $eta^2 = .013$. The difference in perceived efficacy between early childhood and elementary majors at the southeastern university was greater than the difference in perceived efficacy between early childhood and elementary majors at the midwestern university. The southeastern university early childhood preservice teachers had the highest perceived efficacy score (M=66.03) which is significantly different from elementary preservice teachers at southeastern university, F (1, 228)=6.76, $p < .05$, $eta^2 = .029$; and the southeastern university elementary preservice teachers had the lowest (M=64.17). There was not a significant difference between the early childhood and elementary major at midwestern university, F (1, 149)=.304, p =.582, $eta^2 = .002$. The midwestern university early childhood preservice teachers had lower perceived efficacy (M=65.10) than the midwestern university elementary preservice teachers (M=65.55), but both fell between the southeastern universities highest and lowest (see Table 1).

Insert Table 1 about here

MANOVA revealed a statistically significant interaction between the two universities' teacher education programs and the point where preservice teachers were in their respective programs (beginning or ending levels), F (18, 356)= 2.017, $p < .05$, $eta^2 = .093$. There was also a statistically significant interaction between these two universities' teacher education programs and

the preservice teachers' major (early childhood and elementary), F (18, 356)=1.928, $p < .05$, eta^2= .089. Because there were statistically significant interactions revealed in the MANOVA, we plotted the data for identifying the pattern depicted by these three variables (university, point in program, and major). The effects of each variable were interpreted with the levels of the other variable in mind. We looked at the differences between beginning-level and ending-level preservice teachers in each teacher educational program, as well as the differences between early childhood and elementary preservice teachers in each teacher education program.

Follow-up univariate analyses of variance for the 18 items were conducted. Six of the 18 items revealed statistically significantly interactions between university and major; Item 3, F =4.01, $p<.05$, eta^2=.011; Item 9, F =12.23, $p<.05$, eta^2=.032; Item 10, F =4.12, $p<.05$, eta^2=.011; Item 13, F =4.78, $p<.05$, eta^2=.013; Item 14, F =4.95, $p<.05$, eta^2=.013; Item 16, F =7.01, $p<.05$, eta^2=.018. Mean scores on these six items are presented in Table 2. The interaction between program and major revealed two patterns. On items 3, 9, 14, and 16 the southeastern early childhood majors and the midwestern elementary majors differed significantly from the southeastern elementary majors and the midwestern early childhood majors. On items 10 and 13 the midwestern early childhood majors differed significantly from the midwestern elementary majors and both southeastern majors. Means scores for significant efficacy items by group, major and university are reported in Table 2.

Insert Table 2 about here

On item 3 (learning being attributed to teachers' extra effort) the interaction revealed that

southeastern university early childhood majors scored lower than midwestern university early childhood and elementary majors and also scored lower than southeastern university elementary majors. Analysis of item 9 (the ability to offer culturally appropriate learning experiences) showed a reverse pattern in that the southeastern university early childhood preservice teachers' efficacy scores were higher than the midwestern university early childhood preservice teachers' efficacy scores, while the midwestern university elementary majors' scores were higher than southeastern university elementary majors' scores. On item 10 (more effective ways of facilitating learning) the midwestern university early childhood preservice teachers' efficacy scores were significantly lower than the scores of both majors of the southeastern university sample and the midwestern university's elementary majors' scores. There was no difference between early childhood and elementary preservice teachers at the southeastern university.

Midwestern university early childhood preservice teachers had significantly lower scores than midwestern university elementary preservice teachers and southeastern early childhood and elementary preservice teachers on item 13 (the ability to positively negotiate differences with parents and children from different backgrounds). There were no significant differences between the midwestern university elementary preservice teachers or the southeastern early childhood and elementary preservice teachers on this item.

Southeastern university early childhood and midwestern elementary preservice teachers identified a higher sense of knowing strategies for handling students' misbehaviors (item 14) than midwestern university early childhood preservice teachers and southeastern elementary preservice teachers. There was similar interaction pattern on item 16 (the ability to provide appropriate alternatives to help an unsuccessful child) in that southeastern university early childhood and

midwestern elementary preservice teachers had significantly higher scores than midwestern early childhood and southeastern elementary preservice teachers.

In the 18 items there was only one statistically significantly interaction between university and point in the program F =6.54, p< .05, eta^2 = .017. Item 14 (knowing strategies for handling students' misbehaviors) revealed that beginning preservice teachers at the midwestern program had a lower mean score (M=3.87) than beginning preservice teachers at the southeastern program (M=4.12). By the end of program, midwestern university preservice teachers showed higher scores on this item (M=4.28) than southeastern university preservice teachers (M=4.16). The mean difference between beginning and ending groups at the midwestern program was greater than the mean difference between beginning and ending groups at the southeastern program. There was only one statistically significant interaction between major and point in the program F = 3.87, p = .05, eta^2 = .01. Item 2 (the ability to guide the most difficult children) revealed no significant difference between ending early childhood majors (M=3.82) and beginning elementary majors (M=3.8), and a significant difference between beginning early childhood majors (M=3.74) and ending elementary education majors (M=3.87).

A pattern was found regarding the interaction by major and university on these six items. The means of the early childhood majors at the southeastern university were more in line with the means of the elementary majors at the midwestern university than with the means of the early childhood majors at the midwestern university and the elementary majors at the southeastern university. On item 3 (the child learns better when the teacher puts forth extra effort) the southeastern early childhood and midwestern elementary means (M=3.2 and M=3.29 respectively) were lower than the means of the early childhood majors at the midwestern university and the

elementary majors at the southeastern university (M=3.46 and M=3.42 respectively). On item 9 (the teacher can offer culturally appropriate learning experiences) the southeastern early childhood and midwestern elementary means (M=4.23 and M=4.18 respectively) were higher than the means of the early childhood majors at the midwestern university and the elementary majors at the southeastern university (M=3.95 and M=4.0 respectively). On item 14 (the teacher knows strategies for handling misbehavior) the southeastern early childhood and midwestern elementary means (M=4.23 and M=4.14 respectively) were higher than the means of the early childhood majors at the midwestern university and the elementary majors at the southeastern university (M=4.01 and M=4.05 respectively). On item 16 (the teacher's ability to provide appropriate alternatives for children who are not successful) the southeastern early childhood and midwestern elementary means (M=4.23 and M=4.15 respectively) were lower than the means of the early childhood majors at the midwestern university and the elementary majors at the southeastern university (M=4.08 and M=4.0 respectively).

Six Open-ended Questions. Frequency rankings revealed differences in preservice teacher beliefs for both midwestern and southeastern programs at the beginning and ending of these programs as well as between the early childhood and the elementary programs. The overall findings are presented in terms of themes that clearly emerged from subjects' responses to the six open-ended questions.

The most pervasive themes were preservice teacher beliefs about (1) pedagogical responsibilities, (2) management responsibilities, (3) teacher role, (4) teacher characteristics, (5) teacher expectations of children and how they learn, and (6) teacher goals.

In terms of pedagogical responsibilities, southeastern university beginning early childhood

preservice teachers stressed "putting children in groups" frequently. Their conception of this pedagogical responsibility stands out as a primary concern. In contrast, both ending southeastern university early childhood and elementary preservice teachers mention a whole range of pedagogical responsibilities (such as providing "thinking games", "math games", "hand-on activities", "role-play", "sharing activities", "cooperative learning", "storytelling", "real-life experiences", "thematic units", and "integrated curriculum"), indicating their deeper understanding of pedagogical responsibilities.

In the midwestern university sample, both beginning and ending early childhood and elementary preservice teachers mentioned "cooperative learning" and "team work" frequently when answering questions related to pedagogical responsibilities. While beginning early childhood preservice teachers also mentioned "projects" and "freetime", ending early childhood preservice teachers mentioned many more specific pedagogical techniques such as "creating appropriate environments", providing a "variety of materials" and "literature", and conducting learning activities such as "language experiences", "story, group, and circle time" and "music". Similarly, the midwestern university elementary preservice teachers' responses seemed to reflect a deeper pedagogical understanding by the end of their program compared to the beginning of their program. At the outset, in addition to cooperative learning, these preservice teachers mentioned "literature", "hands on activities", and "work stations". However, they expanded on these considerably at the end noting "whole language and literature based instruction", "creative teaching", "reading and writing workshop", and "science projects". While both the beginning southeastern university and midwestern university subjects' responses to pedagogical responsibilities represented new ways of thinking in terms of teaching (grouping, cooperative

learning and hands on instruction), the responses were nevertheless general and quite standard. In contrast the ending preservice teachers at both universities and across both programs displayed a whole panoply of pedagogical knowledge indicating a clear constuctivist approach to teaching.

With regard to management responsibilities, both the beginning and ending southeastern university early childhood preservice teachers commented frequently on establishing a bright and attractive environment (e.g., bright, happy, attractive, pleasant, excited environment, set up centers and stations, constructivist setting, learning community). At this university, beginning early childhood preservice teachers see themselves as "authority figures" and as "managers" of time and space in the classroom. Ending early childhood preservice teachers tend to believe more in an "unstructured, relaxed and open, homelike environment", more of a "community" working together than a classroom managed by the teacher. However, this ending group also frequently mentioned a well-managed and orderly environment in which classroom rules are enforced and discipline maintained.

Unlike the southeastern university sample, preservice teachers at the midwestern university seldom mentioned issues related to establishing a pleasant environment. However, they did emphasize managing "unstructured, relaxed and open classroom settings" as the southeastern university's preservice teachers did. At the same time, they commented on managing the classroom under more formal structures (e.g., routine, organized, under control) and on managing time and space in the classroom.

The conflict between ending preservice teachers' beliefs of maintaining classroom control and fostering self directed learning in an open atmosphere can be understood in terms of those participants' increasing teaching competence and experience, and the build up of their trust in

students' capabilities to learn, along with a shift toward a deeper and more integrated understanding about teaching and learning. It is also a reflection of the dreaded "discipline" issue that is prevalent among teachers in general, and their unwillingness to give up control because of their inexperience and uncertainty as they embark on their teaching career. This conflict is again reflected in the more implicit management comments of the beginning and ending elementary sample that seemed to equate didactic learning with more facilitative teacher behaviors.

The theme of teacher role is expressed frequently by the southeastern university preservice teachers both at the beginning and at the ending stages of their preparation. Both early childhood and elementary preservice teachers' early beliefs tend to be more didactic; i.e. the teacher's role is to influence children, to give them attention, and to show them how to do things. However, the early childhood group also mentioned meeting children's needs and leaving room for exploration and discovery. Other didactic comments that beginning early childhood preservice teachers made included helping children learn new information, enhancing their study habits, helping them get acquainted, giving them positive reinforcement, and asking children questions. These were also characteristic of the comments by ending elementary preservice teachers. This is in stark contrast to the ending early childhood subjects' more facilitative comments, such as providing learning opportunities, facilitating learning by setting up learning centers and stations, creating a constructivist setting by letting children get involved in their own learning and doing, having parents play an active role in their child's learning, and creating a community of learners. A more constructivist approach to teaching and learning, where children play an active rather than passive role in learning, seems to emerge in the beliefs held by early childhood rather than elementary preservice teachers at the southeastern university by the end of their teacher preparation

programs.

Results from the midwestern university indicat that both beginning and ending preservice teachers mentioned building "friendships" with students when they assigned roles to themselves. In addition, they present many different images of teachers' roles, such as "guide", "role model", "educator" and "provider". They also emphasize encouraging, supporting, listening, meeting the students' needs, and getting parents involved in their children's learning. Both beginning and ending groups made didactic comments such as helping children, getting acquainted, giving them positive reinforcement, and asking children questions. The midwestern university elementary preservice teachers mentioned "discipline" more often than the early childhood preservice teachers did. Elementary preservice teachers at the midwestern university perceived their roles as caretakers who maintained standards of behavior, regular schedules and a safe environment. Various didactic comments that midwestern university preservice teachers made (e.g., educate, guide, listen, discipline and question children, provide resources to children, let children make choices, encourage them, reach children and consider children's interests) also appeared in southeastern preservice teachers' written responses.

Teachers' perceptions regarding their role influenced their orientation toward their perceived the classroom responsibilities. For example, the midwestern teachers saw themselves as caretakers, consistent with their comments related to maintaining standards of behavior, enforcing regular schedules and providing a safe environment. Additionally midwestern teachers saw themselves as educators. This perception is consistent with their comments related to accomplishing their goals, being strict, building students' skills, and dealing with loud children.

In terms of teacher characteristics, both beginning and ending early childhood preservice

teachers at the southeastern university noted that teachers needed to be caring and loving. The beginning early childhood group, however, stressed the more "feeling" characteristics (patient, kind, understanding) compared to both the early childhood and elementary ending groups that commented more on personality characteristics (stable, responsible, productive). While ending preservice teachers acknowledged the importance of affective attributes such as "caring", they seemed more aware of other sustaining personality characteristics that mark effective teachers when compared to beginning preservice teachers.

Results from the midwestern university indicate that both beginning and ending early childhood and elementary preservice teachers are aware of the importance of compassion, love, caring, enthusiasm and sincerity. Preservice elementary teachers at both universities commented more on being positive, stable, and productive than did the early childhood preservice teachers. Beginning and ending elementary preservice teachers and beginning early childhood preservice teachers at the midwestern university emphasize their own characteristics of being creative, open, supportive and flexible. In general, the midwestern university preservice teachers paid more attention to their own characteristics as teachers than did the southeastern university preservice teachers.

In terms of teachers' expectations of children and beliefs about how they learn, beginning and ending early childhood and elementary preservice teachers at both universities had distinctly different conceptions. The beginning groups, when commenting on how children learn, were more likely than ending groups to emphasize didactic learning (children need to learn certain skills, subjects and major concepts) and less likely to emphasize spontaneous learning and self-exploration (discovering, solving their own problems, learning from mistakes, developing

critical thinking). This difference is especially reflected in the southeastern university's ending early childhood pre-service teachers and the midwestern university's ending elementary preservice teachers' conceptions of the learning process. The southeastern beginning elementary sample also mentioned didactic learning in subject areas often with only a slight shift in belief toward exploratory learning at the end. The midwestern ending early childhood preservice teachers emphasized using movies, music, and art to the curriculum more than the beginning group.

Both the midwestern and southeastern university preservice teachers' goals seem to be more clearly expressed and varied by the end of the program compared to the beginning of the program. While beginning preservice teachers mentioned future learning and life skills, ending preservice teachers elaborated on these goals to include gaining knowledge and thinking for themselves and becoming life-long learners.

As in the efficacy data, there are patterns of similarity between the beliefs of the southeastern university early childhood majors and the midwestern university elementary majors. The belief statements of these two groups documented increasingly frequent responses related to the pedagogical responsibilities of providing opportunities for learning; in helping children think for themselves; in helping children to understand, to learn new concepts, and to expand their minds; and in their use of role play, themes, cooperative learning, storytelling, and other activities. Their belief statements also showed increased frequencies in statements concerning the teacher's role by serving as a role model for the children, by communicating with parents, and by meeting children's needs. Last, their belief statements showed increased frequencies in references to the teacher characteristics of being stable, productive, positive, and responsible.

Conclusion

The results of this study show that preservice teachers' efficacy beliefs were stronger at the end of these two different teacher education programs then they were at the beginning of the program. This can be understood in terms of their increasing teaching competence through experience in working with young children. This finding is consistent with the results of Lin, Gorrell, & Taylor's (1998) study of culture and educational experiences influencing preservice American and Taiwan teachers' efficacy beliefs. College course work and related teaching experiences, under certain conditions, seemed to influence the preservice teachers' sense of efficacy. This finding supports the findings of Ashton and Webb (1986), Enochs, Scharmann, and Riggs (1995), and Watters and Ginns (1995). Teachers' perceived sense of efficacy in teaching and learning was considered as teachers' perception of personal responsibility for student learning (Guskey, 1987).

Examining the significantly different efficacy items across these two programs, we found that southeastern university early childhood preservice teachers and midwestern elementary teachers had a strong sense of their ability to offer culturally appropriate learning experiences to children from diverse backgrounds, to use effective strategies for handling students' misbehaviors, and to provide appropriate alternative learning experiences for children who are not successful. Additionally, we found that southeastern university early childhood and elementary preservice teachers and midwestern elementary teachers had a strong sense of their abilities to find more effective ways to facilitate learning and to positively negotiate differences with parents and children from different cultural backgrounds.

The ending midwestern university preservice teachers were significantly different from the

beginning preservice teachers on their sense of knowing appropriate strategies for handling misbehaviors, and the ending southeastern university preservice teachers were significantly different from the beginning preservice teachers on their perception of their ability to guide difficult children. These findings may be attributable to what they have learned and experienced during their teacher education program.

Additionally, Midwestern early childhood education preservice teachers had strong beliefs that, if teachers put forth extra effort they would be able to produce better effects on the learning of students. Southeastern early childhood education preservice teachers had strong beliefs that putting forth extra effort would not produce better effects on the learning of the students. These contrasting findings could be due to differences in the theoretical foundations of the two programs. The southeastern early childhood program is highly based on the teachings of Jean Piaget, and students in that program understand that it is not through their effort that children learn but rather that all meaningful learning originates from the child's ability to assimilate the information in logical ways. The early childhood program at the midwestern university indicates a variety of perspectives, in addition to Piagetian, and , therefore, places some greater emphasis on the teacher's role in providing effective learning.

The results of this study did not replicate the two dimensions of efficacy, teaching efficacy and personal efficacy, that Gibson and Dembo (1984) found. This may be due to the fact that the participants of this study were preservice rather than inservice teachers. The preservice teachers may have more undifferentiated perceptions of their sense of efficacy during their teacher education programs because they have not had sufficient experience to advance their thinking in this way (Lortie, 1975).

The present findings show that preservice teachers had various views regarding teaching and learning. Though perceived efficacy appears to be associated with some emerging beliefs about teaching and learning (e.g., the concept of strong teacher responsibility for children's learning, their perception of role as teachers, and some of teacher characteristics of being stable, productive, positive, and responsible), identifying direct links between preservice teachers' sense of efficacy and their beliefs about teaching and learning is limited because of the complexity of defining and analyzing the two constructs. However, one special pattern associated with efficacy and belief deserves specific mention. Based on the open-ended responses, the present study shows some general trends in preservice teachers' beliefs from the beginning to the end of their programs. At the beginning, preservice teachers seem to have traditional conceptions of teaching (didactic, controlling, and providing knowledge) and global conceptions of learning such as putting children in groups. Towards the end of their programs, these conceptions tend toward more facilitative and constructivist orientations and toward more detailed and expanded conceptions of teacher roles and pedagogy. Through examining philosophy and goals of these two universities, we found that the thematic variations across programs tends support to the notion that internal program coherence acts as an important factor on preservice teachers' beliefs (Tatto, 1998). According to Tatto (1998),the development of internal or across-program coherence in teacher preparation facilitates preservice teachers' reflection about learning and teaching. Such a coherence may serve to overcome the tendency of teacher education programs to be "weak interventions" (Griffin, 1994) related to preservice teachers' beliefs.

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Table 1

Means efficacy scores by group

Group	Southeastern university		Midwestern university	
	early childhood	elementary	early childhood	elementary
Beginning	64.32	63.66	64.05	65.25
Ending	67.70	64.80	65.97	65.91

Table 2

Means for significant efficacy items by university, program and major

Items	southeastern university		midwestern university	
	early childhood	elementary	early childhood	elementary
Extra effort	3.20	3.42	3.46	3.29
Offer culturally learning experience	4.23	4.00	3.95	4.18
More effective ways of teaching	3.76	3.72	3.53	3.78
Ability to positively negotiate differences	3.99	3.99	3.69	4.00
Know strategies for handling misbehavior	4.23	4.05	4.01	4.14
Provide appropriate alternatives	4.23	4.00	4.08	4.15

Appendix

Teacher Attitude Scale

1* The amount a child can learn is primarily, related to family background.

2 I can successfully guide even the most difficult children.

3 When a child learns something better than he or she normally learns, many times it is because I exerted extra effort.

4* The hours in my class or program have little influence on children compared to the influence of their home environment.

5* If children do not receive guidance at home, they aren't likely to accept any guidance.

6 When a child is having difficulty with a task, I am usually able to adjust it to his or her developmental levels.

7 A teacher is very limited in what he or she can achieve because a child's home environment is a large influence on his or her development.

8 When a child performs at a hi-her developmental level for his or her age, it is usually because I have found better ways of working with that child.

9 I can offer culturally appropriate learning experiences to children from diverse back-grounds.

10 When children improve their ways of working with materials, it is usually because I found more effective ways of facilitating their learning.

11* If parents would do more with their children, I could do more.

12 If a child gets frustrated interacting in a learning situation. I know how to intervene to help him or her feel successful.

13 I have the ability to positively negotiate differences I have with parents and children from different ethnic, economic, and cultural backgrounds.

14 If a child in my class becomes disruptive and noisy, I fell assured that I know some strategies for dealing with the situation

15 Positive experiences at school can make up for negative experiences outside school.

16 If a child is not successful completing a learning experience, I would be able to provide appropriate alternatives to help that child succeed.

17* Even a teacher with good teaching abilities may not reach many children.

18 If a child learns something thoroughly, this mi-ht be because I was able to teach him or her effectively.

* Items 1, 4, 5, 7, 11,17 are reverse-scaled to create a total score